ABSTRACT OF THE DISCLOSURE

Systems and methods for network transmission of three-dimensional graphical data are disclosed. A single graphical application instance can virtually and efficiently exist on multiple local or remote display systems by directly sharing its raw rendered framebuffer memory information among all local or remote graphics accelerators, thus avoiding the need to re-render any application information again on each node. An internal graphics card is used to scale the rendered data prior to transmission. This graphics scaling eliminates the need for data compression or image compression and achieves an adaptive, hardware-accelerated reduction in network bandwidth. Furthermore, since all memory and remote processing support tasks are performed within the graphics card, the CPU, system bus, and memory bandwidth remain available to the system and other applications.